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"The mass of *Neptune* comes out, as might be expected, much less than that given by the former investigation. It now appears to be about $\frac{1}{23000}$ of that of the sun. In consequence of the near commensurability of the mean motions of *Uranus* and *Neptune*, their mutual perturbations, when fully developed, will greatly exceed any others which occur in the system of the primary planets.

"The largest term in the perturbations of *Uranus* by *Neptune* has a coefficient of about 1° 44′, while its period is about 6800 years, or nearly 81 times the period of *Uranus*. In consequence of its immense period, this term, notwithstanding the magnitude of its coefficient, produces scarcely any sensible effect on the longitude of *Neptune* determined from the perturbations."

Ephemeris of NEPTUNE *for Greenwich Mean Midnight.*

By Mr. Adams.

Date.	R. A.	N. P. D.	Date.	R. A.	N. P. D.
1847.	h m s	° ′ ″	1847.	h m s	° ′ ″
July 15	22 8 54·86	102 3 23·0	Aug. 9	22 6 38·51	102 16 24·5
16	50·19	3 50·2	10	32·42	16 58·8
17	45·45	4 17·9	11	26·30	17 33·4
18	40·62	4 45·9	12	20·16	18 8·0
19	35·72	5 14·4	13	13·97	18 42·7
20	30·74	5 43·2	14	7·78	19 17·5
21	25·69	6 12·5	15	6 1·56	19 52·4
22	20·58	6 42·1	16	5 55·33	20 27·3
23	15·39	7 12·0	17	49·09	21 2·0
24	10·13	7 42·3	18	42·83	21 37·0
25	8 4·80	8 12·9	19	36·56	22 12·0
26	7 59·43	8 43·9	20	30·29	22 47·4
27	53·98	9 15·2	21	24·01	23 22·4
28	48·47	9 46·7	22	17·73	23 57·4
29	42·91	10 18·6	23	11·45	24 32·4
30	37·29	10 50·7	24	5 5·16	25 7·4
31	31·62	11 23·1	25	4 58·88	25 42·2
Aug. 1	25·90	11 55·8	26	52·62	26 17·0
2	20·13	12 28·7	27	46·35	26 51·8
3	14·32	13 1·8	28	40·10	27 26·4
4	8·44	13 35·1	29	33·87	28 0·9
5	7 2·53	14 8·6	30	27·64	28 35·3
6	6 56·58	14 42·3	31	21·44	29 9·6
7	50·59	15 16·2	Sept. 1	15·26	29 43·7
8	22 6 44·57	102 15 50·3	2	22 4 9·09	102 30 17·7

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Date.	R.A.	N.P.D.	Date.	R.A.	N.P.D.
1847.	h m s	° ′ ″	1847.	h m s	° ′ ″
Sept. 3	22 4 2·95	102 30 51·5	Sept. 8	22 3 32·75	102 33 37·4
4	3 56·84	31 25·1	9	26·82	34 9·9
5	50·77	31 58·5	10	20·93	34 42·2
6	44·73	32 31·7	11	15·09	35 14·1
7	22 3 38·72	102 33 4·7	12	22 3 9·27	102 35 45·8

Mr. Adams finds the following log distances of the Earth from *Neptune.*

July	19	1·464782	August	28	1·462553
August	8	1·462822	Sept.	17	1·464028

the horizontal parallax may be taken to be 0″·3

On comparing Professor Challis's places with those given by the ephemeris, Mr. Adams finds the following corrections:—

		R.A. Obsd.—Calcd.	N.P.D. Obsd.—Calcd.
		s	″
1847.	May 26	+0·18	+1·5
	June 1	+0·21	+1·0
	19	+0·02	+1·3
	July 13	−0·23	+1·1

HAMBURG.

(M. Rümker.)

	Date.	Hamburg M.T.	R.A.	Dec.	No. of Obs.
		h m s	° ′ ″	° ′ ″	
1847.	June 14	13 15 0	332 37 41·2	−11 53 27·9	5
	17	13 33 3	36 46·8	54 0	1
	18	13 5 18·5	36 10·8	54 22·5	5
	20	12 51 10·0	35 6·2	54 52·8	3
	23	57 10·0	33 23·4	55 31·1	9
	24	39 16·8	32 46·7	55 45·5	3
	28	46 8·0	29 59·1	56 54·6	8
	July 3	39 9·0	25 54·4	58 32·8	5
	5	12 36 34·8	332 24 9·2	−11 59 20·2	7

Observations of ASTRÆA.

HAMBURG.

(M. Rümker.)

		Hamburg M.T.	R.A.	Dec.	
		h m s	° ′ ″	° ′ ″	
1847.	May 21	11 39 23·4	233 48 15·1	−10 21 11·0	Mer. Cir.
	24	11 24 53·1	233 7 28·9	10 14 31·4	Mer. Cir.
		12 12 9·9	233 7 12·0	10 14 12·0	7
	June 3	12 3 47·3	231 2 56·0	9 58 45·2	17
	7	11 28 28·9	230 20 28·5	9 56 1·3	10
	9	10 10 5·5	230 1 16·6::	9 55 33·8	Mer. Cir.
		11 20 32·1	230 0 54·5	−9 55 27·4	8
	11	11 32 23·8	229 42 25·5	−9 55 13·6	7

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